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## PATENT ABSTRACTS OF JAPAN

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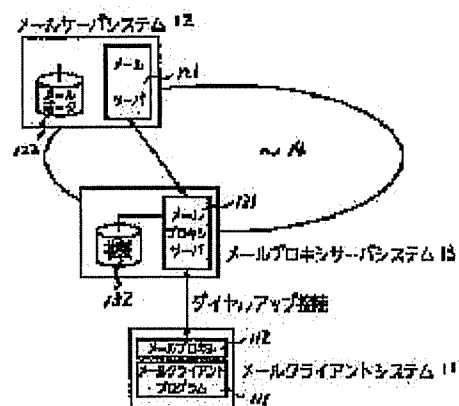
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**(54) METHOD, SYSTEM FOR TRANSMITTING MAIL AND RECORDING MEDIUM IN WHICH THE SAME IS PROGRAMMED AND RECORDED****(57) Abstract:**

**PROBLEM TO BE SOLVED:** To prevent loss of mail data and to suppress communication cost without changing a program by performing a proxy operation in consideration of unstableness of a line when a mail is connected from a mail client to a mail server via a public line or radio.

**SOLUTION:** A mail client system is connected with a proxy server 13 arranged closely to a connection point and user information to be connected with the mail server 121 is transmitted to the proxy server between a mail server system 12 and the mail client system 11 by the mail client system.

The proxy server 13 is connected with the mail server based on the user information, the mail data owned by the mail server is duplicated (132), the duplicated mail data is operated according to a data operation request from the mail client, the mail data is responded to the mail client and the request is simultaneously transmitted to the mail server by the proxy server 13.



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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the recording medium which a mail transmission method, a system, and the method are programmed, and is recorded.

[0002]

[Description of the Prior Art] Telephones are media which exchange sounds and facsimiles are media which transmit and receive a picture using a telephone line. If it is the information to which the E-mail can treat a personal computer to mail and door-to-door delivery being systems which deliver [ physical / "mono-" ] using [ therefore ] a personal computer etc. as a terminal, i.e., a character, a picture, a sound, and an animation, it is a system exchangeable [ anything ].

[0003] It faces using an E-mail and it is necessary to carry out direct continuation of the mail client system to a system with a mail server. Therefore, when located in the place distant from the mail server, the dialup connection using a public line is required.

[0004] The example of a connection configuration of the conventional e-mail system is shown in drawing 13. The computer by which a mail client system and 41 are mail server systems, and 41 constitute both systems is connected via the public network 43 among a figure. The mail client program 411 is built in the mail client system 41, and the mail server system 42 comprises the main part 421 of a mail server, and the mail data 422.

[0005] In the case of a dialup connection, especially in the case of a wireless circuit, a circuit may be suddenly cut during transmission and reception of data. In this case, the problem which loses the mail data 422, and the problem that it might be unable to connect with the mail server 421 again unless lock information remains in the mail server 421 and this lock information is called off, when connection is not completed normally were conceived. When the distance with the mail server system 42 became far, time was taken in processings, such as redoing procedure, useless time was required, and communication cost also had the fault that cost will start too many, when dignity and also a telephone line were disconnected.

[0006] the case where a channel is used — tapping — becoming completely — etc. — security poses a problem. The gateway which will be relayed if it connects with a mail server from a remote place will increase, and the danger will increase. Although there is also the method of enciphering e-mail or carrying out an

electronic signature, the sending person of e-mail carries out encryption and an electronic signature to a mail text, and becomes a sending person's burden, and also it is necessary to have the function in the client of the both sides of a transmitting mail person and an addressee.

[0007]

[Problem(s) to be Solved by the Invention]As mentioned above, in order according to the conventional electronic mail system to connect with a mail server and to carry out e-mail exchange via a public line from the client in a remote place, the influence which it has on communication cost and data integrity triggered by the instability of the communication line is great.

[0008]In light of the above-mentioned circumstances, this invention is a thing. The purpose by performing proxy operation in consideration of the instability of the circuit, when connecting it with a mail server via \*\* public lines or radio, The mail transmission method, the system, and the method of preventing loss of mail data, without adding change to a mail server and a client program, and holding down communication cost are providing the recording medium programmed and recorded. By arranging an e-mail proxy system to contiguity of a mail server, By performing encryption and compression of mail data between proxies, the safety of mail data is secured and the mail transmission method, the system, and the method of aiming at an improvement of transmission speed also make it the purpose to provide the recording medium programmed and recorded.

[0009]

[Means for Solving the Problem]In a client/server system which performs mail transmission via a network, a mail transmission method of this invention a mail client, Transmit and User Information for connecting with a proxy server approached and located in a connection point, and connecting with a mail server to the proxy server said proxy server, Mail data which is connected to a mail server based on the User Information, and a mail server has is reproduced, While operating said reproduced mail data according to a data manipulation demand from a mail client and answering a mail client, the demand is transmitted to a mail server.

[0010]In a client/server system which performs mail transmission via a network, a mail client, Transmit and User Information for connecting with a proxy server approached and located in a connection point, and connecting with a mail server to the proxy server said proxy server, It connects with said mail server via an e-mail proxy arranged by approaching a mail server, Mail data which a mail server has is reproduced and said reproduced mail data is operated according to a data manipulation demand from a mail client, and while answering a mail client via said e-mail proxy, it is characterized by straw matting which transmits the demand to a mail server.

[0011]When it is a client/server system which performs mail transmission via a network and two or more mail servers which can connect a mail client exist, Said mail client is connected to an e-mail proxy server approached and located in a connection point, Transmit and User Information for connecting with a mail server to the e-mail proxy server said e-mail proxy server, Based on the User Information, connect with two or more mail servers simultaneously, and a duplicate of mail data which each mail server has is created simultaneously, While operating said reproduced mail data simultaneously according to a data manipulation demand from a client and answering a client, it is characterized also by transmitting the demand

to each mail server.

[0012]A means to connect with an e-mail proxy server which a mail transmission system of this invention approaches a connection point, and is located, A mail client which comprises a means to transmit User Information for connecting with a mail server to the e-mail proxy server, A means to reproduce mail data which is connected to a mail server based on the User Information, and a mail server has, While answering a means to operate said reproduced mail data according to a data manipulation demand from a mail client, and a mail client with a demand of operated contents, - RUPUROKISHI server which comprises a means to transmit the demand to a mail server connects via a network.

[0013]A mail client which comprises a means to transmit User Information for connecting with a mail server to a means to connect with an e-mail proxy server approached and located in a connection point, and its proxy server, A means to connect with said mail server via an e-mail proxy arranged by approaching said mail server, A means to reproduce mail data which a mail server has and to operate said reproduced mail data according to a data manipulation demand from a mail client, While answering a mail client via said e-mail proxy, an e-mail proxy server system which comprises a means to transmit the demand to a mail server connects via a network, and is characterized also by things.

[0014]A mail client which comprises a means to transmit User Information for connecting with a mail server to a means to connect with an e-mail proxy server approached and located in a connection point, and its e-mail proxy server, A means to connect with two or more mail servers simultaneously based on the User Information, A means to create simultaneously a duplicate of mail data which each mail server has, a means to operate said reproduced mail data simultaneously according to a data manipulation demand from a mail client, Connecting via a network is also characterized by an e-mail proxy server which comprises a means to transmit the demand to each mail server while answering a client in operated contents.

[0015]A recording medium of this invention is used in a client/server system by which a mail client is connected with a mail server via an e-mail proxy server, A step to which said e-mail proxy server receives a connection request of a client from a state of waiting for connection from a client, A step which receives User Information and connects with a mail server using this User Information, A step which requires transmission of mail data held at a mail server, and creates a duplicate of a mail server, and a step which processes a demand from a client and performs end processing are programmed and recorded.

[0016]A mail client is connected with a mail server via an e-mail proxy server, An e-mail Proxy server is used for a server client system linked to e-mail PUROSHIKI arranged by approaching a mail server, and said e-mail proxy server, A step which receives a connection request from a client, and a step which creates a key for encryption after receiving User Information, A step which transmits an encryption key to a proxy of a mail server with User Information, A demand from a client is received, and a step which transmits to e-mail PUROSHIKI, and a step which receives mail data via e-mail PUROSHIKI, decrypts received mail data, and answers a client are programmed and recorded.

[0017]A mail client owns two or more mail servers, and said mail server and a mail client are used in a client/server system connected via an e-mail proxy server, A

step which connects said e-mail proxy server to a step which receives User Information, and all the mail servers in a mail server list of User Information, and creates each duplicate of a mail server which has connected, A step which receives a users request, removes a host name of received data, and processes to the mail server, A step which deletes mail data which ended and reproduced connection with all the mail servers which connected when a mail client ended connection with - RUPUROKISHI server is programmed and recorded.

[0018]When connecting it with a server via a public line or radio from a client at the time of e-mail use according to this invention, by proxy operation in consideration of instability of a circuit. Without adding change to a mail server and a client program, loss of mail data can be prevented and communication cost can be held down.

[0019]

[Embodiment of the Invention]Drawing 1 is a block diagram showing one embodiment of the mail transmission system of this invention. In a figure, 11 is a mail client system, 12 is a mail server system, and the computer which constitutes both systems is connected mediating the e-mail proxy server system 13. The mail server system 12 and the e-mail proxy server system 13 are connected via the network 14. That is, the position near the mail client system 11 has a network connection point, and the e-mail proxy server system 13 is installed in the connection point. The mail client program 111 built in the mail client system 11 is set up emit the processing demand of e-mail to the e-mail proxy client 111.

[0020]If the dialup connection of the mail client system 11 is carried out to the e-mail proxy server system 13, the mail client system 11 will transmit User Information for connecting the e-mail proxy server system 13 with a mail server system and 12.

[0021]As data for connecting with the information 131 required as shown in drawing 2, for example, in order that a user may connect User Information to the mail transmission system of this invention, i.e., an e-mail proxy server, The host name on the protocol of the mail server 121 and the network 14 of the mail server system 12, a user name, and a password are comprised as data for connecting with the host name in the network 14 of the e-mail proxy server system 13, and the mail server 121. These data shall be beforehand set as the e-mail proxy client 112.

[0022]A flow chart shows the basic motion of the e-mail proxy server 131 to drawing 3. The e-mail proxy server 131 receives the connection request of the client 131 from the state of the waiting for the connection from the client 131 (Step S31). If the client 131 is connected (Step S32), User Information will be received (Step S33) and it will connect with the mail server system 12 using this User Information (Step S34). When connection was completed and it is judged with it judging whether a user can connect with the mail server 121 (Step S35), and being able to connect, the e-mail proxy server 131, The list of the mail data 122 is required of the mail server 121, and the duplicate of the mail server 121 is created in the e-mail proxy server system 13 (Step S36). Then, the e-mail proxy server 131 processes the demand from the mail client system 11 (Step S37). If connection is completed, connection end processing (Step S38) will be performed.

[0023]Creation processing of a mail server duplicate is explained in full detail. The procedure in which the e-mail proxy server 131 creates the duplicate of mail data is shown to drawing 5 by the flow chart. After connecting with the mail server

121, the e-mail proxy server 131 requires a mailing list from the mail server 121 (Step S41). When the mail server 121 holds the folder of existing \*\* mail, the list of the folder is also received (Step S42). The e-mail proxy server 131 creates the duplicate of mail data from the received list (Step S43). A folder is also created when there is a list of folders.

[0024]A user processing demand is explained in full detail. The fundamental flow of the processing is shown to drawing 5 by the flow chart. a user's processing demand — receiving (Step S51) — the contents of the demand are distinguished (Step S52) and each processing (S5—/deletion S54—/arrived mail check S55 to read) is performed. When the demand of "reading e-mail" is received, the e-mail proxy server 131 requires the text of the mail server system 12 (Step S61), and receives a mail text (Step S62). The received mail text is saved as a duplicate (Step S63), and transmits to the client system 11 with a demand after that (Step S64). Next, if the completion of transmission to the client system 11 is checked (Step S65) and it completes, the e-mail proxy server 131 will require deletion of the unread information on the mail from the mail server system 12 (Step S66).

[0025]When transmission of data is not completed [ that a communication line is cut etc. and ] while transmitting to the client system 11, the reproduced data is deleted, and the unread information on a mail server presupposes that it remains as it is, and ends connection with the mail server system 121 normally. A flow chart shows the operation procedures of the e-mail proxy server 131 when reading e-mail to drawing 6.

[0026]When the deletion request of e-mail is received, the information on the mail in the duplicate servers 132 is deleted first (Step S71). Processing is ended noting that it completes normally to the client system 11 (Step S72). E-mail deletion is required of the mail server 121 after that (Step S73).

[0027]Even if connection with the client system 11 is completed [ that a communication line is cut etc. and ] before the deletion of e-mail is completed, the e-mail proxy server 131, After maintaining connection with the mail server 121 and completing processing until processing is completed, connection with the mail server system 12 is ended normally. A flow chart shows the flow of processing of the e-mail proxy server 131 at the time of the deletion request of e-mail to drawing 7.

[0028]At the time of the end of connection by a connection terminating request or line disconnection, connection with the mail server system 12 is ended normally, and the duplicate of the created mail is deleted.

[0029]By as mentioned above, the thing for which the e-mail proxy server 131 completes processing, and completes connection with the mail server system 12 normally even when connection with the client system 11 carries out abnormal termination. The safety of mail data can be secured and operation to the mail server 121 can be made into a positive thing.

[0030]Drawing 8 is a figure showing other embodiments of the mail transmission system of this invention. The embodiment shown here arranges the e-mail proxy 223 to the mail server system 22. Therefore, direct continuation of the e-mail proxy server system 23 is not carried out to the mail server 221, but it is connected to the e-mail proxy 223.

[0031]Handshaking of the mail client system 21 and the e-mail proxy server system 23 is the same as that of the embodiment shown in drawing 1. After the e-mail proxy

server 231 receives the connection from the mail client system 21 and receives User Information, the e-mail proxy server 231 is connected to the e-mail proxy 223 of the mail server system 22. Then, the e-mail proxy 223 of the mail server system 22 is connected to the mail server 221. It is transmitted to the e-mail proxy 223 of the mail server system 22 from the e-mail proxy server 231, and the e-mail proxy 223 transmits the demand from the mail client system 21 to the mail server 221. The e-mail proxy 223 receives, it is transmitted to the e-mail proxy server 231, and the response from the mail server 221 is transmitted to the mail client system 21. [0032]Data encryption can be set up in the channel 24 between the e-mail proxy server 231 and the e-mail proxy 223 of the mail server system 22. When setting out of data encryption is performed, it enciphers at the transmitting side of data and decrypts by the receiver of data. After the e-mail proxy server 231 receives the connection request from a user (Step S91) and receives User Information (Step S92), the key to encryption is generated (Step S93). And an enciphering key is transmitted to the e-mail proxy 223 of the mail server system 22 with User Information after connecting with the e-mail proxy 223 of the mail server system 22 (Step S94) (Step S95). If the e-mail proxy server 231 receives the demand from a user (Step S97), it will transmit to the e-mail proxy 223. If the e-mail proxy 223 receives this demand, it will process to the mail server 221 (Step S101,102,103,104), and it enciphers (Step S105) and mail data is transmitted to the e-mail proxy server 231 (Step S106). The e-mail proxy server 231 decrypts the received mail data (Step S99,100), and processes to a user. These operation procedures are shown in drawing 9.

[0033]A data compression can also be set up in the channel 24 between the e-mail proxy server 231 and the e-mail proxy 223 of the mail server system 22. When setting out of the data compression is performed, it compresses at the transmitting side of data and thaws by the receiver of data. While especially improving transmission speed when it compresses, and among e-mail are an attached file etc., communication cost can be held down low.

[0034]The safety of mail data is secured without adding change to the mail server 221 and the mail client program 212 by mediating the e-mail proxy 211,223 like explanation above, and an improvement of transmission speed is also realized.

[0035]Drawing 10 is a block diagram showing the embodiment of the mail forwarding system of this invention in case a user owns two or more mail servers. Here, it explains in detail, referring to the data structure shown in drawing 11 and drawing 12 about operation in case a mail client processes simultaneously two mail servers shown in drawing 10.

[0036]As shown in drawing 11, the information on the host name of the e-mail proxy server 331 and two or more mail servers 321,351 is set to the mail client proxy 312 in list form. When the mail client system 31 connects with the e-mail proxy server 331, the e-mail proxy 312 of the mail client system 31 transmits the data which shows drawing 11 the data structure. The e-mail proxy server 331 will create the duplicate 332,333 of the mail data 322,352 which connects with all the mail servers 321,325 in a mail server list, and is in the mail server which has connected, if User Information is received.

[0037]When transmitting a user's demand, the e-mail proxy 312 of the mail client system 31 attaches to a head the host name which is the target of processing. For example, when processing e-mail by a character string, it shall be as the demand to

a mail server name "HOST1" is shown in drawing 12. The e-mail proxy server 331 will remove the portion of the host name of received data, if the User Information is received, and it processes to the mail server system 32 (35). If the mail client system 31 ends connection with the e-mail proxy server 331, the e-mail proxy server 331 will end normally connection with all the connected mail server systems 32 (35), and will delete the reproduced mail data.

[0038] Even if the user owns two or more mail servers 321, 351, two or more mail servers can be simultaneously processed by connecting with a piece place.

[0039] Above, like explanation, as the embodiment of drawing 1, drawing 8, and drawing 10 shows, this invention, The mail server system 12 (22, 32) and the mail client system 11 (21, 31) do, A mail client system is the method and device which are connected to the mail server system 12 (22, 32) via the network 14 (24, 34), The mail client system 11 (21, 31) transmits User Information for connecting with the proxy server 13 (23, 33) close to a connection point, and connecting with the mail server system 12 (22, 32) to the e-mail proxy server 13 (23, 33). The client system 11 (21, 31), the operation request to mail data — the mail server system 12 (22, 32) — not but, Have a means to transmit to the e-mail proxy server system 13 (23, 33), and the e-mail proxy server system 13 (23, 33), User Information is received from the mail client system 11 (21, 31), and it has a means to connect with the mail server system 12 (22, 32) based on the User Information. The e-mail proxy server system 13 (23, 33), It has a means 132 (232, 332, 333) to reproduce in person the mail data which the mail server system 12 (22, 32) holds based on User Information, According to the operation request of the mail data from the mail client system 11 (21, 31), While operating the mail data reproduced from the mail server system 13 (23, 33) and answering the mail client system 11 (21, 31), the demand is transmitted to the mail server system 12 (22, 32).

[0040] In the embodiment of drawing 8, the e-mail proxy system 223 is arranged to contiguity of the mail server system 22, The e-mail proxy server 231 to which the mail client system 21 is connected, Connect with the e-mail proxy system 223 of contiguity in the mail server system 22, and the operation request of the mail data of the mail server system 22, It communicates via the near e-mail proxy system 223, and, as for the data which spreads between the e-mail proxy systems 211, 223, processing for [ both ] encryption, compression-izing or encryption, and compression-izing is performed. As the embodiment of drawing 10 shows, when two or more mail server systems which can connect a mail client exist, the e-mail proxy server 331, Have a means for connecting with those mail server systems 32 and 35 simultaneously, and the mail client system 31, It has the means 312 for operating it simultaneously to two or more mail servers 321, 325 by connecting with the e-mail proxy server 331.

[0041]

[Effect of the Invention] When connecting with a mail server via a public line or radio from a mail client like explanation above according to this invention, While the proxy operation in consideration of the instability of the channel protects loss of mail data, etc., without adding change to a mail server program and a mail client program in any way, it makes it possible to make communication cost low.

[0042] By arranging an e-mail proxy system near the mail server system, encryption and compression processing are realized between proxies, and an improvement of transmission speed can also be aimed at by this, securing the safety of mail data.



[0043] Especially this invention has a large effect acquired by using when connecting it with a server via a network from a Personal Digital Assistant, a highly reliable communication network is expectable, and also effective use of a computer resource can be aimed at.

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[Translation done.]

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CLAIMS

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[Claim(s)]

[Claim 1] In a client/server system which performs mail transmission via a network, a mail client, Transmit and User Information for connecting with a proxy server approached and located in a connection point, and connecting with a mail server to the proxy server said proxy server, Mail data which is connected to a mail server based on the User Information, and a mail server has is reproduced, A mail transmission method characterized by transmitting the demand to a mail server while operating said reproduced mail data according to a data manipulation demand from a mail client and answering a mail client.

[Claim 2] The mail transmission method according to claim 1 User Information's comprising information for connecting with information and a mail server for connecting with an e-mail proxy server, and setting it as a mail client system in advance of connection.

[Claim 3] The mail transmission method according to claim 1, wherein an e-mail proxy server reproduces the mail when a mail server holds only arrived mail, and it also holds mail of existing \*\* besides arrived mail, it sometimes sets it and it reproduces it.

[Claim 4] The mail transmission method according to claim 3 when it acquires only list information of e-mail when an e-mail proxy server reproduces an e-mail day which a mail server holds, and it receives an operation request of mail data from a mail client, wherein it reproduces a main part of mail data.

[Claim 5] An e-mail BUROKISHI server operates it to mail data reproduced according to an operation request of mail data from a mail client, After returning a response to a mail client, an operation request of the mail data is transmitted to a mail server, The mail transmission method according to claim 1 carrying out normal termination of the connection without transmitting an operation request of mail data to a mail server when connection between an e-mail proxy server and a mail client is severed before processing completion which returns said response to a mail client.

[Claim 6] A proxy server operates it to mail data reproduced according to an operation request of mail data from a mail client, When connection between an e-mail proxy server and a mail client is severed while having transmitted an operation request of mail data to a mail server, after returning a response to a mail client. The mail transmission method according to claim 5 making processing

complete without being alike and interrupting a demand to a mail server.

[Claim 7] In a client/server system which performs a mail transfer via a network, a mail client, Transmit and User Information for connecting with a proxy server approached and located in a connection point, and connecting with a mail server to the proxy server said proxy server, It connects with said mail server via an e-mail proxy arranged by approaching a mail server, A mail transmission method transmitting the demand to a mail server while reproducing mail data which a mail server has, operating said reproduced mail data according to a data manipulation demand from a mail client and answering a mail client via said e-mail proxy.

[Claim 8] The mail transmission method according to claim 7 enciphering data in a channel between e-mail proxies of an e-mail proxy server and a mail server, and communicating.

[Claim 9] The mail transmission method according to claim 7 compressing data in a channel between e-mail proxies of an e-mail proxy server and a mail server, and communicating.

[Claim 10] When it is a client/server system which performs mail transmission via a network and two or more mail servers which can connect a mail client exist, said mail client, It is connected to an e-mail proxy server approached and located in a connection point, Transmit and User Information for connecting with a mail server to the e-mail proxy server said e-mail proxy server, Based on the User Information, connect with two or more mail servers simultaneously, and a duplicate of mail data which each mail server has is created simultaneously, A mail transmission method transmitting the demand to each mail server while operating said reproduced mail data simultaneously according to a data manipulation demand from a client and answering a client.

[Claim 11] A mail client which comprises a means to transmit User Information for connecting with a mail server to a means to connect with an e-mail proxy server approached and located in a connection point, and its e-mail proxy server, A means to reproduce mail data which is connected to a mail server based on the User Information, and a mail server has, While answering a means to operate said reproduced mail data according to a data manipulation demand from a mail client, and a mail client with a demand of operated contents, A mail transmission system which - RUPUROKISHI server which comprises a means to transmit the demand to a mail server connects via a network, and is characterized by things.

[Claim 12] A mail client which comprises a means to transmit User Information for connecting with a mail server to a means to connect with an e-mail proxy server approached and located in a connection point, and its proxy server, A means to connect with said mail server via an e-mail proxy arranged by approaching said mail server, A means to reproduce mail data which a mail server has and to operate said reproduced mail data according to a data manipulation demand from a mail client, Mail transmission main-actor-in-a-No-play sum which an e-mail proxy server system which comprises a means to transmit the demand to a mail server while answering a mail client via said e-mail proxy connects via a network, and is characterized by things.

[Claim 13] A mail client which comprises a means to transmit User Information for connecting with a mail server to a means to connect with an e-mail proxy server approached and located in a connection point, and its e-mail proxy server, A means to connect with two or more mail servers simultaneously based on the User

Information, A means to create simultaneously a duplicate of mail data which each mail server has, a means to operate said reproduced mail data simultaneously according to a data manipulation demand from a mail client, A mail transmission system connecting an e-mail proxy server which comprises a means to transmit the demand to each mail server while answering a client in operated contents via a network.

[Claim 14] A mail server and a mail client are used in a client/server system connected via an e-mail proxy server, and said e-mail proxy server, A step which receives a connection request of a client from a state of waiting for connection from a client, A step which receives User Information and connects with a mail server using this User Information, A recording medium which a step which requires transmission of mail data held at a mail server, and creates a duplicate of a mail server, and a step which processes a demand from a client and performs end processing are programmed, and is recorded and in which computer reading is possible.

[Claim 15] A step which requires a mailing list from a mail server, and a step which also sets and receives the list when a mail server holds mail of existing \*\*, A recording medium which a step which reproduces a main part of mail data is programmed, and is recorded from a received list and in which the computer reading according to claim 14 is possible.

[Claim 16] A step which requires transmission of a mail text currently held at a mail server when a demand which reads e-mail is received, A step which transmits to a client while saving a received mail text as a duplicate, A step which requires deletion of unread information on mail of opposite *Perilla frutescens* (L.) Britton var. *crispa* (Thunb.) Decne. of a mail server, A step which confirms whether transmitting mail to a client was completed, A recording medium which deletes data reproduced when transmitting mail was not completed, and a step which carries out normal termination of the connection with a mail server as it is is programmed, and is recorded in unread information on a mail server and in which the computer reading according to claim 14 is possible.

[Claim 17] A step which reports that deleted information on reproduced mail and normal termination was carried out to a client when a demand which deletes e-mail was received, A recording medium which a step which requires e-mail deletion from a mail server, and a step of which connection with a mail server is canceled after maintaining connection with a mail server and completing processing until the processing is completed are programmed, and is recorded and in which the computer reading according to claim 14 is possible.

[Claim 18] A mail client is connected with a mail server via an e-mail proxy server, An e-mail Proxy server is used for a server client system linked to e-mail PUROSHIKI arranged by approaching a mail server, and said e-mail proxy server, A step which receives a connection request from a client, and a step which creates a key for encryption after receiving User Information, A step which transmits an encryption key to a proxy of a mail server with User Information, A recording medium which a step which receives a demand from a client and transmits to e-mail PUROSHIKI, and a step which receives mail data via e-mail PUROSHIKI, decrypts received mail data, and answers a client are programmed, and is recorded and in which computer reading is possible.

[Claim 19] A step as which PUROSHIKI of a mail server requires connection of an

e-mail Proxy server, A step which receives User Information and an encryption key from an e-mail Proxy server, A recording medium which a step which connects with a mail server, receives a users request, and processes the demand, and a step which enciphers mail data and transmits mail data to an e-mail proxy server are programmed, and is recorded and in which the computer reading according to claim 18 is possible.

[Claim 20] A mail client owns two or more mail servers, and said mail server and a mail client are used in a client/server system connected via an e-mail proxy server, A step which connects said e-mail proxy server to a step which receives User Information, and all the mail servers in a mail server list of User Information, and creates each duplicate of a mail server which has connected, A step which receives a users request, removes a host name of received data, and processes to the mail server, A recording medium which a step which deletes mail data which ended and reproduced connection with all the mail servers which connected when a mail client ended connection with - RUPUROKISHI server is programmed, and is recorded.

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[Translation done.]

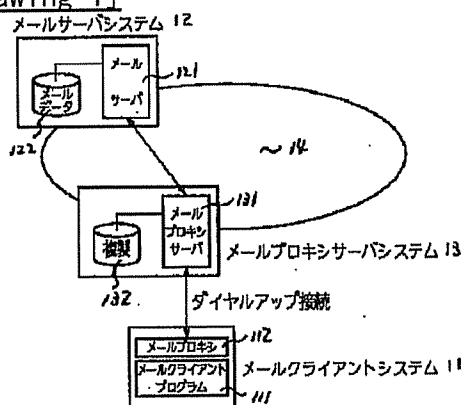
## \* NOTICES \*

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

## DRAWINGS

[Drawing 1]



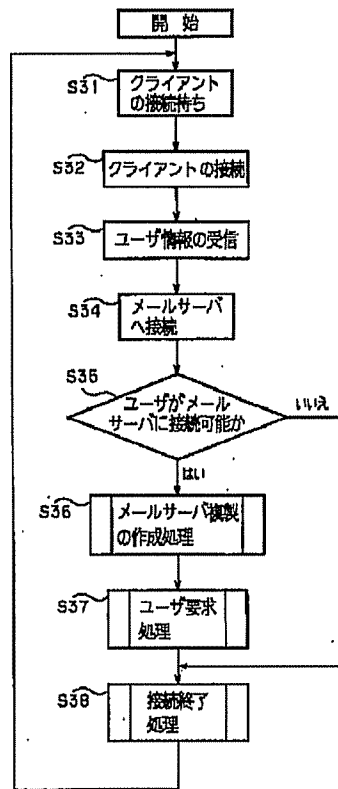
[Drawing 2]

メールプロキシサーバに接続する為のデータ	ホスト名
	メールサーバのプロトコル
メールサーバに接続する為のデータ	ホスト名
	ユーザ名
	パスワード

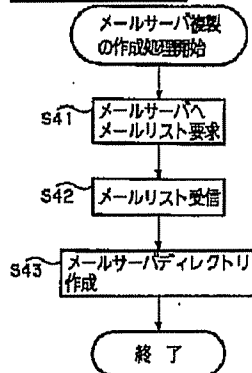
[Drawing 11]

メールプロキシサーバのホスト名	メールサーバのプロトコル
メールサーバデータ1	ホスト名
メールサーバデータ2	ユーザ名
	パスワード

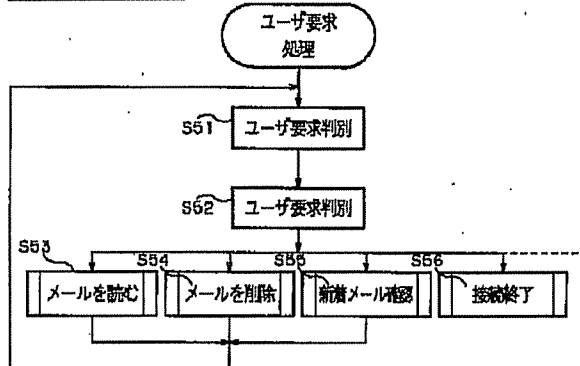
[Drawing 3]



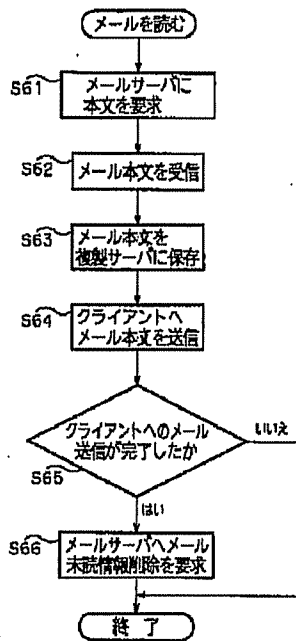
[Drawing 4]



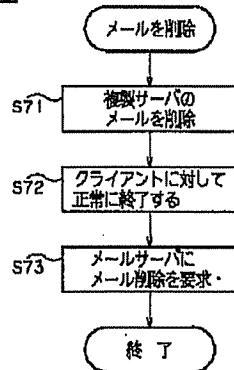
[Drawing 5]



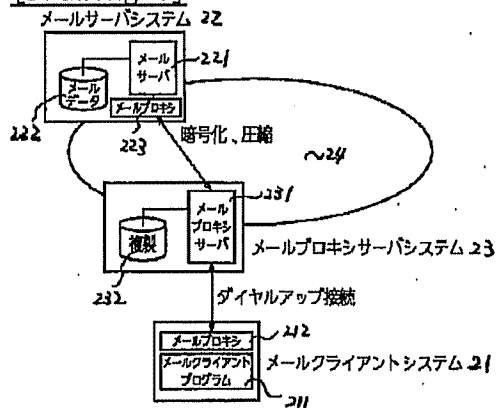
[Drawing 6]



[Drawing 7]

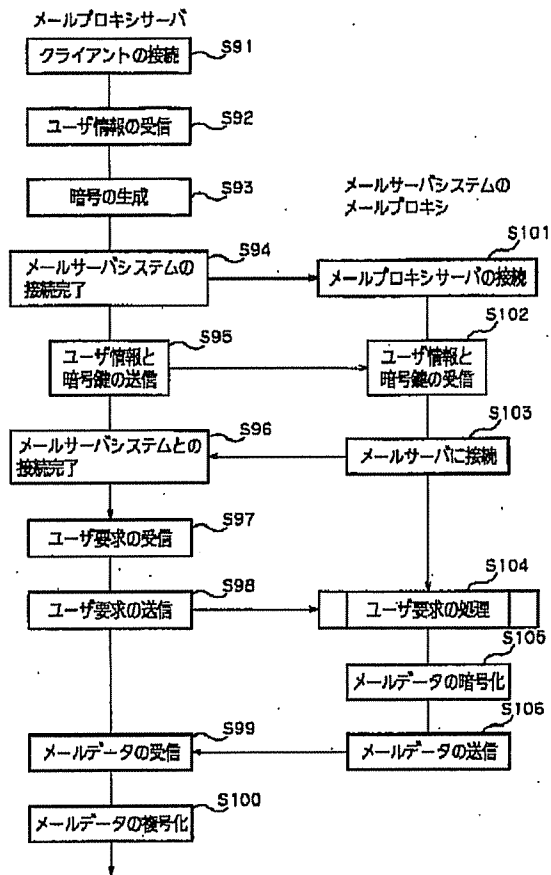


[Drawing 8]

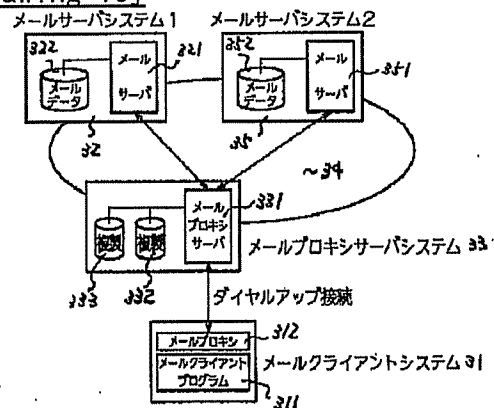


[Drawing 9]





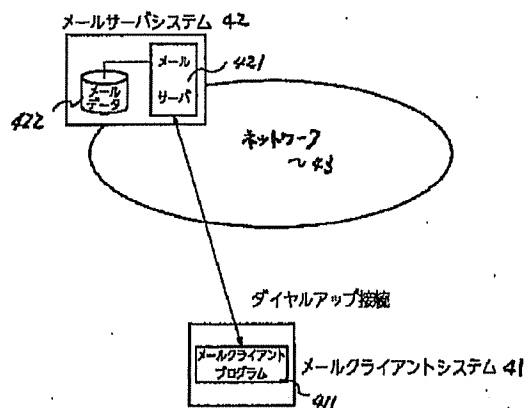
[Drawing 10]



[Drawing 12]

H	O	S	T	:	処理要求文字列
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[Drawing 13]



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[Translation done.]